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Revised Version for *Applied Economics*

How the criticisms of the Referee have been met

First of all, let we thank the Referee and the Editor for their comments.
We have modified the paper taking into account all the suggestions, and we are sure that the changes represent a significant improvement of our work.

Specifically, the Referee made three points.

The first point concerned the definition of the most important aim of the paper. In this respect –in the revised version of the paper– following the suggestion of the referee, we give more stress to the analysis of the factors affecting tourists' choice, while the discussion on the performance of different estimators and the discussion on the role of socio-demographic factors are much shorter. Introduction, Section 4, and the Concluding Section are re-written consistently. Most Tables report now only the ordered-probit results (i.e., the results from the most appropriate estimator) while the relatively good performance of OLS and LOGIT estimations is only mentioned as a by-product result (the OLS and LOGIT estimates are reported only once, in Table 2 that covers the whole sample).

In principle, the second point of the referee could be appropriate –namely, the fact that accommodation type emerges as the most significant attribute could be related to the fact that four level of this factor were included in the prospect offered to respondents, compared to only two levels for different factors. However, to our knowledge, the available literature does not show any significant influence of the different numbers of levels upon the weight attached by respondents to the goods' characteristics (see Green-Srinivasan, 1978, 1980; Green-Wind-Rao, 1985) However the point is worth discussing, and it is now discussed in Section 5.

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As to the third point –respondents are enjoying cultural heritage as a public good, so that it is not surprising that they are not ready to pay for it– we would like to stress that we are not asking for a willingness-to-pay; we simply ask for ordering different packages of tourism experiences: the aim of our study is to understand how important the presence of cultural heritage is in the choice of different tourism packages. Thus, the fact that the respondents are visiting a cultural site and they perceive it as a public good should not be relevant on their rating over different tourism packages (including cultural visits or not). However, also this point is worth discussing explicitly and it is now dealt with in Section 5.

Eventually, following a suggestion of the Editor, we make reference to some relevant articles recently published in *Applied Economics* (Barreiro et al, 2005; Borgonovi, 2004; Narayan, 2005; Pavlova et al., 2004).

IS CULTURAL HERITAGE REALLY IMPORTANT FOR TOURISTS? A CONTINGENT RATING STUDY

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Abstract. In this paper we present the results of a contingent rating study carried out on a sample of tourisits visiting Scicli, a Sicilian town known for its baroque heritage. In particular, we focus on different attributes of tourism products – namely, season, accommodation and cultural heritage– to study how much each of these attributes weights in tourists' preferences. We also study how the socio-demographic characteristics of people affect their evaluation of the different attributes of tourism products. The heritage endowment appears to be far from being the most important factor; this result is consistent across different socio-demographic sub-groups of interviewed persons.

Keywords: *Conjoint analysis*, *Contingent Rating, Heritage, Tourism.*

JEL Codes: Z-10, L-83, Q-31.

RUNNING TITLE: Cultural heritage and tourism: a contingent-rating case study

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Is cultural heritage really important for tourists? A Contingent Rating Study

1. Introduction

The promotion of cultural heritage appears to be a very important key in current economic policy supporting tourism development. Even if the preservation of cultural heritage is important *per se*, and it can be an important element for tourism product differentiation, some doubts have been recently cast, as concerns the real importance of cultural heritage for tourists. As a matter of fact, cultural tourism is much smaller, in quantitative terms, as compared to different types of tourism, like, e.g., the leisure sea-side tourism. More important, the cultural heritage endowment seems to be only very ancillary in the choice about destinations by part of most tourists. Some recent analyses suggest that the heritage is not a very important element, even for tourists interviewed during the visit in cultural sites (see Cellini et al., 2004; see also Caserta - Russo, 2002 for a more comprehensive approach to sustainable heritage tourism).

This paper presents the results of a contingent rating exercise carried out on the basis of a questionnaire submitted to a sample of tourists interviewed during their visit in Scicli (Sicily, Italy), a very well known baroque town, currently protected by the UNESCO programme.

The main objective of the research is to elicit the weight attached by tourists to different elements of the tourism product (specifically, season, accommodation, and cultural heritage) and to evaluate how these elements of differentiation matter in the tourists' choice about destination. Moreover, we are interested in evaluating how the weight attached by tourists to the different elements of tourism products changes according to some individual socio-demographic characteristics (e.g., age, gender, income, education).

We take a contingent rating procedure approach. Contingent rating is a particular method within the field of conjoint analysis; in particular, the

individuals are requested to give a rate (over a range), to different products, specifically, to different bundles of characteristics (elements), appearing at different levels. The rate is then investigated as the dependent variable, the different characteristics/levels being the explanatory factors. In such a way, it is possible to understand the importance of each attribute of a product in the consumers' evaluation.

Under the substantial evidence point of view, two findings are worth stressing. First, cultural heritage never appears to be a relevant characteristic in the evaluation order made by consumers-tourists; accommodation and season appear to be more important. Second, the socio-demographic characteristics of respondents play some role in determining the relative impact of single attributes upon the product's evaluation.

Under the methodological point of view, we find a by-product result which is of some interest in the current debate on the consistency and relative performance of different estimation procedures in contingent rating studies. For instance, Roe et al. (1996) conclude in favour of inconsistency across different estimation procedures, while Sanz et al. (2003) conclude in favour of consistency. Our present exercise is a piece in favour of consistency. Specifically, we find that the OLS estimation (even if theoretically biased) leads to very similar results as compared to the ordered-probit estimation; the results are also similar to the evidence coming from the (theoretically inefficient) logit estimation in which the rates are transformed into a dichotomous variable.

The structure of the paper is as follows. Section 2 provides information about the site in which the interviews were collected and about the tourists in sample. Section 3 discusses the methodological issues of the analysis. Section 4 presents the results. Section 5 discusses the results especially from a policy-making perspective and concludes.

2. The case study

Scicli is a town in the Southern Sicily, at about 20 Km from the sea-cost, famous for its baroque cultural heritage, which is protected by UNESCO. The information

on which this study is based was collected during August-September 2004, through direct interview. A questionnaire was administered in person to about 150 respondents, intercepted during their visit to Scicli by one interviewer.[1] The tourists visiting Scicli in that period are people spending their holiday at the sea-side, or involved in an (individual or organised) tour through Sicily. In what follows, we limit our analysis to a sample of 111 interviews, which we judge as completely reliable.

Each person was requested to provide information about his/her personal characteristics, and to provide ratings on different tourism products in Sicily.

As to the individual characteristics, Table 1 gathers some statistics about the sample. The considered group is formed by males and females (42.3% and 57.7 % respectively), aged between 15 and 66 (average age is 41.8); over 60% possess at least a MA degree; about 60% currently work, while students and retired people represent respectively 14.4% and 12.6%. As far as concerns income, we propose three classes referred to the average monthly personal income in the household (less that Euro 1500; between 1500 and 2000; larger than 2000). Moreover, we ask people whether they were participating to an organised tour, receiving a positive answer from 25 out of 111 people. Eventually we asked people to declare their maximum willingness to pay (WTP) for visiting Scicli, proposing four levels of expense (0, 3, 5 and 10 Euros).[2]

INSERT: Table 1 – Statistics of the sample

As to the tourism product packages, we proposed 16 offers to be evaluated, differing as concerns the levels of characteristics. The three considered characteristics (or attributes) are listed below, with their possible levels in parentheses:

i) the season (with two levels: summer-season or non-summer season);
ii) the cultural purpose of the trip (with two levels: presence or absence of cultural visits in the programme);
iii) the accommodation (with four levels: bed & breakfast, rural hotel, 1 to 3 star hotel, 4-5 star hotel).

Notice that price does non appear explicitly among the characteristics. This is motivated by the fact that we intend to collect information about the ordering of differentiated offers, abstracting from the price. Of course, different accommodations imply different prices, so that the consumers' evaluation of accommodation gives indirect information about the evaluation of cost.[3]

Each person was asked to give a rate to each of the 16 offers. The rates could range over the interval 1 to 10 (from the worst to the best); the rating from 1 to 10 corresponds to the traditional evaluating system in the Italian secondary school, so that all Italians are well acquainted with it. All foreigners interviewed people were informed that –in this system– grade 6 denotes the minimum sufficient grade while 7 denotes a good grade. It was possible to give the same rate to different offers.

3. The method: the contingent rating procedure

The *conjoint analysis* or *choice modelling* method, originally proposed by Luce and Tuckey (1964) has been refined along different routes (see, e.g., Green and Rao, 1971, Green and Srinivasan, 1978, 1990), and it is currently used to market analyses.[4] Conjoint analysis is the generic term for a class of survey-based analyses. Respondents are simply asked to choose the most favoured combination of goods (and/or its attributes). Depending on the way in which the order is expressed, different options are possible (e.g., dichotomous choice, graded pair comparison, ranking, rating, and so on).

In particular, the contingent rating procedure requires to have rates attached by respondents to the different combinations of the attributes of a product. The procedure consists in regressing the rates given by interviewed people against variables denoting the presence (or the level) of the specific attributes of product. The idea is that the grade obtained by the product depends on the presence (or level) of its attributes.

Two conditions must be fulfilled for the procedure to make sense: first, the product under analysis can be broken down into different attributes that give value

to the product; second, the investigated attributes must be relevant in the choice process (Green and Srinivasan, 1978).

Generally, the demographic characteristics of interviewed people are inserted into the regression, as they affect the valuation; the demographic variables can be considered *per se* and/or in interaction with the attribute levels of the package.[5] Alternatively, the sample can be split according to the demographic characteristic of respondents, in order to check whether different evaluations emerge, as demographic characteristics change.

Contingent rating method (like all conjoint analyses) represents a way to indirectly elicit the people's preference structure starting from specific stated preference.[6] The main step of this exercise are: (a) the sample selection, (b) the description of the alternative products to be rated by respondents, (c) and the choice of technique for eliciting the criteria of ordering, i.e., the structure of preference. We skip the discussion about the sample selection and the different ways in which alternative products can be proposed to interviewed people.[7] Here we briefly discuss the choice about the technique of data analysis.

Different estimation procedures are possible. Let us focus on: (1) the OLS estimation, (2) the ordered-logit/probit estimation, (3) the logit/probit estimation.

Pros and cons of the different methods are easily listed. OLS makes sense only if one believe that the grades (ranging from 1 to 10) possess a cardinal nature. More importantly, OLS has been shown by Maddala (1983) to be a biased and inconsistent estimator in this kind of regressions. Indeed, when the regressed is –like in the present case– a polychotomous variable with a natural order, the ordered-probit estimation is more appropriate. However, ordered- probit (like ordered-logit) makes sense if one believes that the grades reflect only an ordinal ranking; negative aspects of ordered-probit estimation are represented by the facts that estimation calculation are more involved as compared to the OLS estimation, and the computation iterative procedure sometimes does not converge. Finally, logit/probit estimation can be considered, provided that the rating is dichotomous, say, e.g., good *vs* not-good; to this end, in the present exercise we can transform the grades into a dichotomous variable, taking value 1 or 0 according to the fact that the grade is equal at least to 7 (which means a "good" grade according to the

Italian school rating system) and 0 otherwise. Of course, the logit/probit estimation does not use the complete informative content of the judgements expressed by the interviewed tourists; it omits to consider the cardinal nature of the grading, transforming it into a strict ordinal information (good or not-good). However, it is proposed, to obtain a "control" piece of information, using an estimation procedure that is very common in this strand of literature.[8]

In the present exercise, the substantial meaning of the evaluation is the same in the OLS estimation as in both the ordered-probit estimation and the logit estimation.[9] This consistency holds for the whole sample (Table 2) and across different sub-samples of interviewed tourists (however, Tables 3-8 report only the ordered-probit results; OLS and logit estimations over sub-groups of respondents are available from Authors upon request). As already mentioned, this consistency of results across different estimation methods is not a novelty in the conjoint analysis applied literature (see, e.g., Sanz et al. 2003), even if the consensus on the consistency is not unanimous (see Roe et al., 1996, for an example of different results across different estimators). The present exercise can be easily interpretable as a strong evidence in favour of the substantive equivalence across the results based on different estimators.[10]

4. Results

In the first regressions we are going to present, the dependent variable is the rate given by the whole sample of tourists to different tourism products. Columns (a)-(c) of Table 2 consider the case in which the explanatory variables are the attributes of the products only. In particular, the considered attributes are: (i) the presence (or not) of cultural heritage to be visited (captured by a dummy variable, CULT); (ii) the summer season (captured by a dummy variable, SUMMERS); (iii) the type of accommodation (proposed in four levels, namely, bed&breakfast, rural hotels, 1 to 3 star hotels, 4-5 star hotels; for each level of this attribute a dummy variable is considered).

INSERT: Table 2 – Regressions on the whole sample

The estimates slightly differ across different estimation procedures as concerns their numerical magnitude, but they are consistent as concerns the sign and the statistical significance. This means that, although we know that OLS is biased, and logit is inefficient, their performances are not too bad, as compared to the more appropriate ordered-probit estimates.

Apart from the constant term (which is positive and statistically significant), the attribute "presence of cultural visit" (CULT) always appears to have a not-statistically significant coefficient. This evidence has already emerged in previous analyses referred to Sicily (see, e.g. Cellini et al. 2004): even if people declare that they are interested in cultural heritage, this attribute is far from emerging as significant in the evaluation system of a tourism product. This highlights the importance of the indirect elicitation of the consumers' preference structure.

The summer season (SUMMERS) has a significant negative coefficient. This can be explained by the fact that the temperature can be very high during the summer season in Sicily, and perhaps respondents were worried (or annoyed indeed) about it.

As to the accommodation, the coefficients of the three considered dummy variables suggest that hotels are preferred with respect to bed&breakfast: in all cases, these coefficient appears to be positive and statistically significant in all cases (but the 4-5 star hotel in the logit estimation). We will see below that the evaluation of accommodation largely differs across sub-groups of interviewed people.

Columns (d)-(f) of Table 2 propose the regression results for a specification in which also the demographic characteristics of respondents are considered among the determinants of votes. Dummy variables are considered as concerns: gender, age, education, occupation, income, provenience of respondents, as well as the fact that they are involved in a organized tour or not, and the declared WTP for visiting a particular heritage site like Scicli. Specifically, the considered dummy variables are such that they take value 1 if the subject is male (MALE), aged below 40 (YOUNG), student (STUD), retired

(RETIR), from Sicily (SICIL), from abroad Italy (FOREIGN) endowed at least with a M.A. (HIGH_EDUC), belonging to the class in which the personal income is larger than 2000 Euro (HIGH_INCOME), belonging to a organized tour during the visit (ORG_TOUR), and declaring a WTP for visiting Scicli equal to 5 Euro or higher (HIGH_WTP).We started from the general specification, and then we dropped the demographic regressors showing *t*-statistics smaller than 1. The resulting final specification is reported. Note that the introduction of the individual characteristics has a very limited impact on the other estimated coefficients. Also in this case, apart from different numerical values, the substantive evidence is the same across the different estimations. However, appropriate tests lead to reject the null hypotheses that all the coefficients referring to demographic variables are not significant; this holds both in the case of the general specification in which all the individual characteristics are considered, and in the case of the final considered specification. For instance, in OLS estimation, the test on zero coefficient restrictions gives $F(10,1760)=2.98$ ($p=0.001$) in the regression that includes all demographic characteristics and $F(6,1764)=4.40$ ($p=0.000$) in the specification considered by Column (d) of Table 2. Similar results are obtained with reference to both logit and ordered-probit estimation. This means that the considered individual characteristics are relevant; in all cases, the relevance of demographic attributes is due, in particular, to the relevance of provenience and occupation.

This result lends support to the choice of investigating the preference structure for specific sub-group of individuals, depending on the specific demographic characteristics.[11]

From the regression results, it is also possible to obtain the relative importance of product's attributes in the preference structure: the standard procedure suggests to derive the percentage figures by taking the range of values for each attribute, finding the difference between the highest and the lowest value and then expressing this as a percentage of the total of maximum differences across all the attributes. In the case in which only one level for an attribute appears in the regression (as it is the case for SUMMERS and CULT in the

present exercise), its coefficient has to be considered instead of the difference between the highest and the lowest coefficient referring to the different levels of a given attribute. Applying this procedure to the ordered-probit estimates, we obtain the following results. The weights for the cultural attribute, the seasonal attribute and the accommodation attribute are 11.0%, 52.0%, and 37.0%, respectively.

Clearly, the presence of cultural heritage endowment to be visited has the lowest weight in the elicited preference system.[12] It will be interesting to know whether this result holds also over specific sub-samples of respondents. For the sake of easy comparison, we will gather the evidence concerning the weights attached to attributes by respondents in different sub-samples in Table 7, after the presentation of the regression results for the considered sub-samples.

We start by considering the gender effect – see Table 3-(a),(b). For both female and male respondents, the presence of the cultural heritage attribute is not significant in the evaluation of the tourism product. The summer season turns out to be a significantly negative attribute, for both male and female respondents. Differences emerge as concerns the accommodation: the most relevant difference is that the luxury hotel is a positive (and statistically significant) element for male respondents, while it is negative (and statistically significant) for female respondents. This means that men prefer luxury accommodation, while women do not. Of course, different levels of accommodation are associated to different prices, so that it is possible to conclude that men are more willing to pay for high level hotels as compared to women.[13] Hotels in general appear to have a more important impact on the rate among male respondents than among the female respondents. Differently from men, female respondents show a positive inclination toward bed&breakfast.[14]

INSERT: Table 3 – Gender and age(Ordered probit estimations)

Table 3-(c),(d) considers how the age of respondents affects their preference systems. For both young (aged till 39) and over-40 respondents, the presence of cultural heritage is impressively insignificant; particularly for young

people the coefficient is negative. The result is even more striking if we consider more segmented classes of age: for instance, the coefficient for CULT turns out to be -0.01 (t=-0.08) for people aged 15-30; 0.04 (t=0.85) for people aged 31-45 and 0.10 (t=1.15); for people over 46. Roughly speaking, the coefficient –though always statistically insignificant– increases as the age increases.

The summer season is a significantly negative attribute, for both young and over -40 respondents.

Differences emerge as concerns accommodation: the most relevant difference is that the luxury hotel is a positive (and statistically significant) element for old respondents, while it is negative (though non significant) for young people.[15]

Not surprisingly, old people prefer luxury accommodation, while young people do not. The negative sign taken by 4-5 star hotel accommodation in the evaluation by part of young people is likely due to high implied price.

This evidence is consistent with the results coming from the analysis according to the occupation.

If we focus on the sub-group of 16 students (Table 4), we see that the luxury accommodation is not significant (more in general, the accommodation appears to be of limited importance). Moreover –strikingly enough– the cultural attribute does not play any role in the evaluation of the tourism product (the sign is negative, though not significant). Eventually, the effect of the high season is not negative, contrary to what emerges from all other sub-groups of our sample. This means that the sub-group of student is the only one that does not perceive the high season as a negative attribute of the tourism product (can this be due to the fact that student perceives high season as a synonymous with holiday?).

INSERT: Table 4 – Education and Income (Ordered Probit Estimations)

Table 4 also reports the results according education and income levels. Note that education appears to play a very limited role in differentiating preference systems across different sub-groups.[16] Retired people (not reported for the sake of brevity) show a non significant negative coefficient for summer

season, a positive (but not significant) coefficient for the cultural content of the tourism product, and positive and significant coefficient for hotel accommodations.

As to the provenience (Table 5), notice that the Sicilian people and the foreigner (i.e., non Italian) people are two minorities, while the largest part of the sample is represented by Italians coming from outside Sicily. Among the specificities of the two mentioned minorities, note that Sicilians attach a negative (though non significant) coefficient to the cultural attribute, while foreigner tourists seem to give limited importance to the accommodation and in particular to the high-level accommodation. This is a little bit surprising, given that in the current debate, the lack of adequate accommodation structures is deemed to be a really weak point for the international tourists' attractiveness of Sicily. Foreigner tourists also show a larger discomfort toward high season.

INSERT: Table 5 – Provenience (Ordered Probit Estimations)

Now we move to analyse how the participation in organised tours, and the declared willingness to pay (WTP) for visiting Scicli affect the preference system. The interpretation of Table 6 is quite easy. The participation to organised tour does not emerge to affect the preference structure dramatically; however, people participating to organised tour give more importance to a comfortable accommodation (as the high coefficient for the 4-5 star hotel variable shows). As to the high level of declared WTP, it is far from being associated to a high weight attached to the cultural content of tourism product. It is worth stressing, once again, that in the present research we do not intend to estimate the WTP, and the question on the willingness to pay for visiting Scicli simply aims at having information on a generic expressed willingness to pay for visiting a specific cultural site.

INSERT: Table 6 – Participation to organised tours and declared WTP (Ordered Probit Estimations)

Finally, we move to compute the implicit weight attached by respondents of different sub-groups, to the different product attributes, along the methodological lines already mentioned: the results are gathered in Table 7.

INSERT: Table 7 - Relative importance of attributes (%)

Comments are straightforward. Accommodation shows the largest importance for rich people and males. Students and highly educated persons show the largest relative importance of the cultural attribute. The season attribute has the largest relative importance within non-rich and non student respondents.

5. Discussion

It is worth summarizing the significant points emerged.

People were asked to give grades to different combinations of attribute/levels of a tourism product in Sicily, that is, in the region in which they were spending a trip. The sample is, in some way, biased, since it is constituted by people interviewed during a summer visit in a town known for its important heritage. In other words, the people responding to our questionnaire should be biased *in favor* of cultural tourism. However, the results show that this is not the case. A cautionary note on this point is necessary: respondents are in a cultural town and are presumably enjoying its heritage as a public good. For this reason, some of them may well have felt it unnecessary to recognize the presence of cultural heritage (interpreted as a costly attribute of the tourism package) as an important attribute of tourism product.

In any case, the conjoint analysis, through contingent ranking procedure over the whole sample, has led to find that the cultural attribute plays a limited role, while accommodation and season are more important.

Significant differences have emerged across sub-groups as concerns the relevance and the sign of different levels of attributes. Just to give some examples, luxury hotels appear to be a positive element for men and a negative one for women. Even always insignificant, the higher the age of people is, the more

positive the evaluation of cultural attribute. The summer season is a positive attribute for students and a negative attribute for all other groups.

Finally, the declared willingness to pay for visiting the baroque town does not appear to be correlated with the weight attached by tourists to the cultural content of tourism product.

In front of these facts, it is possible to draw some comments on local policies concerning tourism offers.

Accommodation emerges to be an important element for the evaluation of tourism products according to the interviewed people. Consistently, an adequate endowment of accommodation structures is important for supporting tourism demand toward Sicily (and more in general, toward any tourism destination). Put differently, the improvement of infrastructure (and accommodation in particular) is a real priority in the policy aimed at supporting tourism as an engine of growth (at least in Sicily). The question about the type of accommodation structures to be mainly supported (that is bed& breakfast *vs* luxury hotels, just to give an example) remains open on the basis of the present evidence, since different sub-groups of our sample show different preferences as concerns accommodation; gender, age (in a rather obvious way) and provenience seem to affect this evaluation.

The limited importance attached by tourists to the presence of a cultural visit in a tourism package could suggest that the emphasis on cultural tourism in current debate and local policy is at least misplaced. As a matter of fact, several stress is put by currently implemented development programmes on the preservation and valorisation of cultural heritage as an engine for the tourism enhancement and economic development. However, our results show that cultural endowment can be not sufficient to attract tourism demand, in the absence of adequate accommodation supply and infrastructure in general. Nevertheless, the fact that the summer season appears to be a negative element for most groups of tourists, leads us to suggest that there is large room for promoting non-summer tourism, in which cultural attributes can play a role.

Eventually, two short remarks are worth mentioning.

First, under a methodological perspective, the present exercise has provided evidence that the OLS procedure leads to results very similar, from a

substantive point of view, with the results coming from the more appropriate ordered-probit estimation; the estimates are substantially similar to that provided by logit estimation, with answers considered in a dichotomous format. This substantive consistency of the results across different estimators lends support to the idea that the results from conjoint analysis are quite robust to different choice of estimation procedures, like suggested by Sanz et al. (2003) and partly by Mackenzie (1993).

Second, our exercise has shown that accommodation and season are more important elements in the individual evaluation system concerning tourism products, than the cultural content of product. This result, however, does not say anything about the existence value of the heritage, nor on its use value, so that it would be incorrect to state that the preservation of cultural heritage is not important. Simply, the presence of cultural heritage does not appear a key element in the evaluation of different tourism offers.

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TABLES

Table 1 – Statistics of the sample

GENDER	Male 42,3%; Female 67,7%
AGE	15-29) 21.6%; 30-39) 25.2%; 40-49) 27.9%; 50-66) 25.2%; Min 15; Max 66; Average 41,8
EDUCATION	Compulsory 4.5%; Secondary 36.9%; M.A. 58.5%; Post M.A. 1.8%
OCCUPATION	Student: 14,4%; Retired 12,6%; Workers 60,0%; Other 11,0%
PERS. INCOME	Euro 0-1500): 29.7%; Euro 1500-2000): 37.8%; Euro > 2000): 32.4%
PROVENIENCE	Foreign 9,9%; Sicilian 12,6%; Other Italian 77.5%
ORGTOUR	No 77.4%; Yes 22.6%
DECLWTP	Euro 0): 20.7%; Euro 3): 51.4% Euro 5): 23.4%; Euro 10): 4.5%

Table 2 – Regressions on the whole sample

	(a)	(b)	(c)	(d)	(e)	(f)
	OLS	ORDERED PROBIT	LOGIT	OLS	ORDERED PROBIT	LOGIT
COST	5.77 (35.62)	2.04 (17.17)	0.11 (0.91)	5.42 (28.45)	2.56 (10.81)	0.11 (0.77)
CULT	0.08 (0.60)	0.04 (0.85)	-0.02 (-0.19)	0.08 (0.60)	0.04 (0.85)	-0.02 (-0.19)
SUMMERS	-0.48 (-3.62)	-0.19 (-3.97)	-0.53 (-5.44)	-0.48 (-3.65)	-0.20 (-4.05)	-0.53 (-5.48)
RURALH	0.81 (4.34)	0.25 (3.60)	0.50 (3.71)	0.81 (4.37)	0.25 (3.65)	0.51 (3.74)
1-3STARH	0.94 (5.04)	0.27 (3.98)	0.55 (4.05)	0.94 (5.07)	0.28 (4.02)	0.56 (4.08)
4-5STARH	0.50 (2.67)	0.14 (1.98)	0.03 (0.20)	0.50 (2.69)	0.14 (1.99)	0.03 (0.20)
male				ni	ni	ni
young				0.56 (3.78)	ni	0.29 (2.90)
high_educ				ni	ni	ni
student				-0.42 (-1.96)	-0.41 (-4.5)	ni
retired				ni	0.17 (1.74)	ni
high_income				ni	ni	ni
sicil				0.39 (1.91)	ni	0.31 (2.05)
foreign				-0.26 (-1.14)	ni	-0.27 (-1.63)
org_toru				0.22 (1.36)	ni	ni
high_wtp				0.29 (1.90)	ni	0.23 (2.13)
R-SQ	0.02		0.57*	0.04		0.58*
LOG LH	-4338.7	-3849.66	-1199.4	-4325.5		-1188.4
N. PEOPLE	111					

Note: R-sq is substituted by the goodness of fit in the logit estimation; ni stands for "not included", since its coefficient in the general specification was characterised by a *t*-statistics smaller than 1.

Table 3 – Gender and age (Ordered-probit estimations)

	(a)	(b)	(c)	(d)
	Female	Male	Young (people aged below 40)	Non-young
COST	2.30 (16.31)	1.73 (7.79)	2.17 (13.21)	1.93 (11.19)
CULT	0.05 (0.82)	0.03 (0.41)	-0.01 (-0.14)	0.08 (1.28)
SUMMERS	-0.17 (-2.70)	-0.23 (-3.05)	-0.23 (-3.25)	-0.16 (-2.42)
RURALH	0.08 (0.92)	0.50 (4.65)	0.16 (1.55)	0.33 (3.44)
1-3STARH	-0.15 (-1.66)	0.89 (8.26)	0.23 (2.24)	0.32 (3.37)
4-5STARH	-0.23 (-2.51)	0.65 (6.10)	-0.01 (-0.09)	0.27 (2.80)
LOG LH	-2211.7	-1599.1	-1824.4	-2012.8
Number of subjects	64	47	52	59

Note: t-statistics in parentheses

Table 4 – Education and income (Ordered probit estimations)

	(a)	(b)	(c)	(d)	(e)	(f)
	Non-student	Student	Low-education	High-education	Low Income	High income
COST	2.01 (15.44)	2.23 (7.63)	2.13 (12.03)	1.99 (12.46)	2.27 (17.21)	1.66 (6.22)
CULT	0.06 (1.18)	-0.08 (-0.66)	0.005 (0.06)	0.07 (1.05)	0.04 (0.68)	0.05 (0.60)
SUMMERS	-0.20 (-3.79)	-0.16 (-1.28)	-0.28 (-3.70)	-0.14 (-2.22)	-0.21 (-3.50)	-0.18 (-2.15)
RURALH	0.30 (3.94)	-0.02 (-0.09)	0.30 (2.81)	0.21 (2.28)	0.24 (2.79)	0.29 (2.37)
1-3STARH	0.28 (3.77)	0.25 (1.34)	0.27 (2.54)	0.27 (3.02)	-0.03 (-0.33)	0.88 (7.24)
4-5STARH	0.16 (2.15)	0.02 (0.12)	0.14 (1.26)	0.13 (1.44)	-0.17 (-2.00)	0.74 (6.15)
LOG LH	-3288.7	-544.7	-1556.6	-2276.2	-2558.8	-1242.9
Number of subjects	95	16	46	65	74	37

Table 5 – Provenience (Ordered probit estimations)

	(a)	(b)	(c)
	Sicilian	Non-Sicilian Italian	Foreigner
COST	2.37 (8.08)	1.96 (13.48)	2.43 (7.46)
CULT	-0.04 (-0.33)	0.06 (1.08)	-0.01 (-0.08)
SUMMERS	-0.23 (-1.70)	-0.16 (-2.81)	-0.46 (-2.64)
RURALH	0.10 (0.50)	0.31 (3.92)	-0.02 (-0.10)
1-3STARH	0.52 (2.69)	0.28 (3.53)	-0.01 (-0.38)
4-5STARH	0.46 (2.36)	0.14 (1.82)	-0.27 (-1.23)
LOG LH	-477.4	-2967.2	-377.2
Number of subjects	14	86	11

Table 6 – Participation to organised tours and declared WTP (Ordered probit estimations)

	(a)	(b)	(c)	(d)
	NO ORG_ITIN	ORG_ITIN	LOW_ WTP	HIGH_ WTP
COST	1.12 (16.28)	1.79 (6.11)	1.06 (14.96)	1.98 (8.52)
CULT	0.03 (0.55)	0.09 (0.37)	0.06 (1.03)	-0.001 (-0.01)
SUMMERS	-0.19 (-3.53)	-0.19 (-1.87)	-0.23 (-3.97)	-1.11 (-1.20)
RURALH	0.18 (2.33)	0.48 (3.26)	0.24 (2.94)	0.28 (2.11)
1-3STARH	0.20 (2.58)	0.51 (3.50)	0.31 (3.85)	0.18 (1.39)
4-5STARH	0.02 (0.23)	0.55 (3.72)	0.11 (1.30)	0.21 (1.59)
LOG LH	-3001.1	-831.3	-2770.6	-1064.2
Number of subjects	86	25	80	31

Note: R-sq is substituted by the goodness of fit in the logit estimation

Table 7 - Relative importance of attributes (%)

SAMPLE	Culture	Season	Accommodation
Whole	11.0	52.0	37.0
Male	5.2	38.5	56.3
Young people	2.2	50.2	47.6
Student	16.6	32.3	51.0
Rich people	7.5	26.5	66.0
Highly educated	19.0	40.5	40.5
Sicilian	7.1	36.3	56.6

FOOTNOTES

[1] The interviewer was Ms. Rosa Pacetto, and the interview project was part of her final dissertation for the Laurea Degree at the University of Catania. The database containing all answers is available from Authors on request, in Excell, Microfit or Limdep format.

[2] It is important to stress that the estimation of the willingness to pay is not among our goals. The declarations on WTP will be used only for a different purpose: we will limit ourselves to analyse how the declared willingness interacts with elicited preference system.

[3] Two further reasons exist to omit price from the list of attributes: first, we do not aim at estimating implicit price of attributes, so that we do not need the presence of price among the explanatory factors; second, in similar exercises, price typically emerges to have a positive marginal coefficient in the evaluation system of a package - see, e.g., Roe et al. (1996) or Alberini (2003) among many others; the reason is that respondents interpret price as an indirect indicator for quality. The absence of price avoids this source of confusion.

[4] For comprehensive reviews see Cattin and Wittink (1982), Carrol and Green (1985), Green et al. (1985), Green and Krieger (1997); more recently, Hanley et al. (2001), Mazzanti (2003) and Cuccia (2003). Montecarlo evidence on conjoint analysis are provided by Carmone et al. (1978).

[5] See Alvarez-Farizo et al. (2001) or Alberini et al. (2003) as examples of recent conjoint analyses in which the personal attributes are inserted into the general regression.

[6] Conjoint analysis and more specifically contingent rating represent indirect stated preference methods to draw the evaluation of people on the attributes of goods; differently, contingent valuation method represents a direct stated preference method which basically consists of asking individuals to declare their personal valuation of a non-

priced asset (Mitchell and Carson, 1990; see also Arrow et al., 1993, and Diamond and Hausman, 1994); recent examples of contingent valuation study are Barreiro et al. (2005), or Pavlova et al. (2004); in the latter a particular focus is set on the individual characteristics of respondents.

[7] In order to have a comprehensive view about the problems concerning the sample selection and the description of products, see, e.g., Cattin and Wittink (1982), Carrol and Green (1995), Green and Srinivasan (1978, 1990), Green et al. (1985), Hanley et al. (2001), Cuccia (2003), and the articles published in the recent issue of the *Journal of Cultural Economics* (2003) on contingent valuation.

[8] See, e.g., Hanemann (1984), McConnell (1990) and especially Roe et al. (1996) who transform the grades (analysed through a ordered-logit estimation) into a dichotomous variable (analysed through a logit estimation) and compare the different results.

[9] The difference between logit and probit estimations rests on the assumption about the error distribution. With the polychotomous dependent variable, we performed also the ordered-logit estimation, obtaining –as it is usual– very similar results as compared with the results from ordered-probit. Also in the case of transformed dichotomous variable, the results from logit and probit estimations are very similar.

[10] Our findings are consistent with the evidence presented by Mackenzie (1993), who empirically compares three different response formats (rating, rankings and binary choice) and shows that ratings provide –as expected– the largest informational efficiency in econometric estimation.

[11] We have also investigated the relevance of the individual demographic variables upon the marginal effect of attribute levels, by inserting, in the regression, explanatory variables capturing the cross-combination of attribute levels and demographic characteristics (see, e.g., Alberini et al, 2003, and Begona et al., 2001, among many

others); such combined explanatory variables, however, are not significant once we consider demographic variables per se and attribute levels, so that we omit the results for the sake of brevity. For a recent study concerning the role of socio-economic variables in the demand for cultural goods see Borgonovi (2004).

[12] From a methodological perspective, note that the number of the proposed levels for each considered attribute should have no effect on the weight attached to the attribute. In fact, the present results –like the available literature– show that such effect does not exist indeed. In other words, the fact that four level of accommodation are included in the prospects offered to respondents compared to only two each for season and cultural visits, in the present case, should not affect the results concerning the weight.

[13] This result can depend on the larger income declared by the sub-group of men as compared to the whole sample.

[14] In front of these marked differences, it is not surprising that the Chow test of stability of the regression coefficients –with respect to the OLS estimation– leads to reject the stability of coefficients computed for the female sub-groups over the next observations regarding the male group ($\chi^2_6 = 88.08$, p=.000).

[15] These results resemble the evidence concerning the distinction between female and male respondents. However, it is important to notice that the gender distribution in young and old sub-samples reflects the distribution in the whole sample: the men are 42.34% of the whole sample, the 42.30% and the 42.37% of the young and old respondents, respectively. In other words, the fact that old people show a positive attitude toward high level accommodation is not due to the fact that in this sub-sample there is a larger presence of men, which show the same attitude.

[16] Not surprisingly in front of the regressions results, the Chow test of stability of the regression coefficients –with respect to the OLS estimation– leads to accept the stability

of coefficients computed for low-educated people over the next observations regarding highly educated persons ($\chi^2_6 = 1.79$, p=.94).